

Listing of the Claims

1-27 (Canceled)

28. (Currently Amended) A catheter comprising:

a shaft having a proximal end and a distal end and a wall defining at least one aperture, the distal end of the shaft including a primary penetrating member having a sharpened end and at least one secondary penetrating member having a sharpened end, wherein the primary penetrating member is adapted to penetrate tissue in a first direction, and wherein the at least one secondary penetrating member is retractable to a position within the primary penetrating member and penetrates the tissue in a second direction different from the first direction when extended from the primary penetrating member, the shaft further comprising an insert having a lumen extending in a longitudinal direction of the shaft and transitioning to a generally lateral direction adjacent the at least one aperture to direct the at least one secondary member through the at least one aperture.

29. (Previously Presented) The catheter of claim 28, wherein the tissue is selected from the group consisting of tumors, heart, lung, brain, liver, kidney, bladder, urethra, ureters, eye, intestines, stomach, pancreas, ovary, prostate, skeletal muscle, smooth muscle, breast, cartilage and bone.

30. (Previously Presented) The catheter of claim 28, wherein the at least one secondary penetrating member comprises microneedles.

31. (Previously Presented) The catheter of claim 28, wherein the second direction is generally perpendicular to the first direction.

32. (Previously Presented) The catheter of claim 28, wherein the second direction is at an angle of about 5 to about 90 degrees relative to the first direction.

33. (Currently Amended)
a pressurized fluid source including fluid therein, and
a catheter having a proximal end and a distal end and a wall defining at least one aperture, wherein the proximal end of the catheter is connected to the pressurized fluid source, wherein the distal end of the catheter includes a primary penetrating member having a sharpened end and at least one secondary penetrating members having a sharpened end, wherein the primary penetrating member is adapted to penetrate tissue in a first direction, and wherein each of the at least one secondary penetrating members is retractable to a first position within the primary penetrating member and a second position extended from the primary penetrating member, with each of the least one secondary penetrating members having a lumen in fluid communication with the pressurized fluid source such that fluid may be delivered to the tissue via the secondary penetrating members, the shaft further comprising an insert having a lumen extending in a longitudinal direction of the shaft and transitioning to a generally lateral direction adjacent the at least one aperture to direct the at least one secondary member through the at least one aperture.

34. (Previously Presented) The catheter system of claim 33, wherein the secondary penetrating members penetrate the tissue in a second direction different from the first direction when extended from the primary penetrating member.

35. (Previously Presented) The catheter system of claim 33, wherein the second direction is generally perpendicular to the first direction.

36. (Previously Presented) The catheter system of claim 33, wherein the second direction is at an angle of about 5 to about 90 degrees relative to the first direction.

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37. (Previously Presented) The catheter system of claim 33, wherein the tissue is selected from the group consisting of tumors, heart, lung, brain, liver, kidney, bladder, urethra, ureters, eye, intestines, stomach, pancreas, ovary, prostate, skeletal muscle, smooth muscle, breast, cartilage and bone.

38. (Previously Presented) The catheter system of claim 33, wherein the fluid comprises at least one therapeutic agent.

39. (Previously Presented) The catheter system of claim 33, wherein the at least one secondary penetrating member comprises microneedles.

40-45 (Canceled)